



SeqList(02-11-US).ST25.txt
SEQUENCE LISTING

<110> Einstein, Neil
 Lillichan, Scott
 Lovitt, Corey
 Parrington, Mark
 Pedyczak, Artur
 Radvanyi, Laszlo
 Singh-Sandhu, Devender
 Oomen, Raymond P
 Cao, Shi-Xian

<120> Tumor Antigens BFA4 and BCY1 for Prevention and/or Treatment of Cancer

<130> API-02-11-US

<140> US 10/611,440

<141> 2003-07-01

<150> US 60/394,346

<151> 2002-07-03

<150> US 60/394,503

<151> 2002-07-09

<150> US 60/411,833

<151> 2002-09-18

<150> US 60/445,342

<151> 2003-02-06

<160> 218

<170> PatentIn version 3.2

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SeqList(02-11-US).ST25.txt

<211> 1281

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<213> Homo sapiens

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 35 40 45

Ser Asp Ala Ala Glu Leu Asn His Lys Glu Glu His Ser Leu His Val
 50 55 60

Gln Asp Pro Ser Ser Ser Ser Lys Lys Asp Leu Lys Ser Ala Val Leu
 65 70 75 80

Ser Glu Lys Ala Gly Phe Asn Tyr Glu Ser Pro Ser Lys Gly Gly Asn
 85 90 95

Phe Pro Ser Phe Pro His Asp Glu Val Thr Asp Arg Asn Met Leu Ala
 100 105 110

Phe Ser Phe Pro Ala Ala Gly Gly Val Cys Glu Pro Leu Lys Ser Pro
 115 120 125

Gln Arg Ala Glu Ala Asp Asp Pro Gln Asp Met Ala Cys Thr Pro Ser
 130 135 140

Gly Asp Ser Leu Glu Thr Lys Glu Asp Gln Lys Met Ser Pro Lys Ala
 145 150 155 160

Thr Glu Glu Thr Gly Gln Ala Gln Ser Gly Gln Ala Asn Cys Gln Gly
 165 170 175

Leu Ser Pro Val Ser Val Ala Ser Lys Asn Pro Gln Val Pro Ser Asp
 180 185 190

Gly Gly Val Arg Leu Asn Lys Ser Lys Thr Asp Leu Leu Val Asn Asp
 195 200 205

SeqList(02-11-US).ST25.txt

Asn Pro Asp Pro Ala Pro Leu Ser Pro Glu Leu Gln Asp Phe Lys Cys
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Asn Ile Cys Gly Tyr Gly Tyr Tyr Gly Asn Asp Pro Thr Asp Leu Ile
 225 230 235 240

Lys His Phe Arg Lys Tyr His Leu Gly Leu His Asn Arg Thr Arg Gln
 245 250 255

Asp Ala Glu Leu Asp Ser Lys Ile Leu Ala Leu His Asn Met Val Gln
 260 265 270

Phe Ser His Ser Lys Asp Phe Gln Lys Val Asn Arg Ser Val Phe Ser
 275 280 285

Gly Val Leu Gln Asp Ile Asn Ser Ser Arg Pro Val Leu Leu Asn Gly
 290 295 300

Thr Tyr Asp Val Gln Val Thr Ser Gly Gly Thr Phe Ile Gly Ile Gly
 305 310 315 320

Arg Lys Thr Pro Asp Cys Gln Gly Asn Thr Lys Tyr Phe Arg Cys Lys
 325 330 335

Phe Cys Asn Phe Thr Tyr Met Gly Asn Ser Ser Thr Glu Leu Glu Gln
 340 345 350

His Phe Leu Gln Thr His Pro Asn Lys Ile Lys Ala Ser Leu Pro Ser
 355 360 365

Ser Glu Val Ala Lys Pro Ser Glu Lys Asn Ser Asn Lys Ser Ile Pro
 370 375 380

Ala Leu Gln Ser Ser Asp Ser Gly Asp Leu Gly Lys Trp Gln Asp Lys
 385 390 395 400

Ile Thr Val Lys Ala Gly Asp Asp Thr Pro Val Gly Tyr Ser Val Pro
 405 410 415

Ile Lys Pro Leu Asp Ser Ser Arg Gln Asn Gly Thr Glu Ala Thr Ser
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Tyr Tyr Trp Cys Lys Phe Cys Ser Phe Ser Cys Glu Ser Ser Ser Ser
 435 440 445

SeqList(02-11-US).ST25.txt

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 465 470 475 480

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 485 490 495

Lys Thr Asp Lys Ser Ser Ser Gly Ala Lys Lys Lys Asp Phe Ser Ser
 500 505 510

Lys Gly Ala Glu Asp Asn Met Val Thr Ser Tyr Asn Cys Gln Phe Cys
 515 520 525

Asp Phe Arg Tyr Ser Lys Ser His Gly Pro Asp Val Ile Val Val Gly
 530 535 540

Pro Leu Leu Arg His Tyr Gln Gln Leu His Asn Ile His Lys Cys Thr
 545 550 555 560

Ile Lys His Cys Pro Phe Cys Pro Arg Gly Leu Cys Ser Pro Glu Lys
 565 570 575

His Leu Gly Glu Ile Thr Tyr Pro Phe Ala Cys Arg Lys Ser Asn Cys
 580 585 590

Ser His Cys Ala Leu Leu Leu Leu His Leu Ser Pro Gly Ala Ala Gly
 595 600 605

Ser Ser Arg Val Lys His Gln Cys His Gln Cys Ser Phe Thr Thr Pro
 610 615 620

Asp Val Asp Val Leu Leu Phe His Tyr Glu Ser Val His Glu Ser Gln
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Ala Ser Asp Val Lys Gln Glu Ala Asn His Leu Gln Gly Ser Asp Gly
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Gln Gln Ser Val Lys Glu Ser Lys Glu His Ser Cys Thr Lys Cys Asp
 660 665 670

SeqList(02-11-US).ST25.txt

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His Ser Cys Tyr Lys Cys Arg Gln Cys Ser Phe Thr Ala Ala Asp Thr
690 695 700

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705 710 715 720

Ile Thr Thr Ala Asn Gly Glu Glu Asp Gly His Ala Ile Ser Thr Ile
725 730 735

Lys Glu Glu Pro Lys Ile Asp Phe Arg Val Tyr Asn Leu Leu Thr Pro
740 745 750

Asp Ser Lys Met Gly Glu Pro Val Ser Glu Ser Val Val Lys Arg Glu
755 760 765

Lys Leu Glu Glu Lys Asp Gly Leu Lys Glu Lys Val Trp Thr Glu Ser
770 775 780

Ser Ser Asp Asp Leu Arg Asn Val Thr Trp Arg Gly Ala Asp Ile Leu
785 790 795 800

Arg Gly Ser Pro Ser Tyr Thr Gln Ala Ser Leu Gly Leu Leu Thr Pro
805 810 815

Val Ser Gly Thr Gln Glu Gln Thr Lys Thr Leu Arg Asp Ser Pro Asn
820 825 830

Val Glu Ala Ala His Leu Ala Arg Pro Ile Tyr Gly Leu Ala Val Glu
835 840 845

Thr Lys Gly Phe Leu Gln Gly Ala Pro Ala Gly Gly Glu Lys Ser Gly
850 855 860

Ala Leu Pro Gln Gln Tyr Pro Ala Ser Gly Glu Asn Lys Ser Lys Asp
865 870 875 880

Glu Ser Gln Ser Leu Leu Arg Arg Arg Arg Gly Ser Gly Val Phe Cys
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Ala Asn Cys Leu Thr Thr Lys Thr Ser Leu Trp Arg Lys Asn Ala Asn
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SeqList(02-11-US).ST25.txt

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Ile Arg Arg Arg Thr Arg Lys Arg Leu Asn Pro Glu Ala Leu Gln Ala
 945 950 955 960

Glu Gln Leu Asn Lys Gln Gln Arg Gly Ser Asn Glu Glu Gln Val Asn
 965 970 975

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 980 985 990

Gln Arg Glu Ile Pro Leu Pro Ser Leu Ser Lys Tyr Glu Ala Gln Gly
 995 1000 1005

Ser Leu Thr Lys Ser His Ser Ala Gln Gln Pro Val Leu Val Ser
 1010 1015 1020

Gln Thr Leu Asp Ile His Lys Arg Met Gln Pro Leu His Ile Gln
 1025 1030 1035

Ile Lys Ser Pro Gln Glu Ser Thr Gly Asp Pro Gly Asn Ser Ser
 1040 1045 1050

Ser Val Ser Glu Gly Lys Gly Ser Ser Glu Arg Gly Ser Pro Ile
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Glu Lys Tyr Met Arg Pro Ala Lys His Pro Asn Tyr Ser Pro Pro
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Phe Val His Asn Asp Phe Gln Ser Glu Ala Asp Trp Leu Arg Phe
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Trp Ser Lys Tyr Lys Leu Ser Val Pro Gly Asn Pro His Tyr Leu
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SeqList(02-11-US).ST25.txt

Ser His Val Pro Gly Leu Pro Asn Pro Cys Gln Asn Tyr Val Pro
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Tyr Pro Thr Phe Asn Leu Pro Pro His Phe Ser Ala Val Gly Ser
 1145 1150 1155

Asp Asn Asp Ile Pro Leu Asp Leu Ala Ile Lys His Ser Arg Pro
 1160 1165 1170

Gly Pro Thr Ala Asn Gly Ala Ser Lys Glu Lys Thr Lys Ala Pro
 1175 1180 1185

Pro Asn Val Lys Asn Glu Gly Pro Leu Asn Val Val Lys Thr Glu
 1190 1195 1200

Lys Val Asp Arg Ser Thr Gln Asp Glu Leu Ser Thr Lys Cys Val
 1205 1210 1215

His Cys Gly Ile Val Phe Leu Asp Glu Val Met Tyr Ala Leu His
 1220 1225 1230

Met Ser Cys His Gly Asp Ser Gly Pro Phe Gln Cys Ser Ile Cys
 1235 1240 1245

Gln His Leu Cys Thr Asp Lys Tyr Asp Phe Thr Thr His Ile Gln
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SeqList(02-11-US).ST25.txt

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Cys Lys Ile Lys Ala Leu Arg Ala Lys Thr Asn Thr Tyr Ile Lys Thr
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SeqList(02-11-US).ST25.txt

Asp Val Ala Thr Ala Arg Arg Glu Ile Ile Ser Ala Ala Glu His Phe
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Ser Met Ile Arg Ala Ser Arg Asn Lys Ser Gly Ala Ala Phe Gly Val
85 90 95

Ala Pro Ala Leu Pro Gly Gln Val Thr Ile Arg Val Arg Val Pro Tyr
100 105 110

Arg Val Val Gly Leu Val Val Gly Pro Lys Gly Ala Thr Ile Lys Arg
115 120 125

Ile Gln Gln Gln Thr Asn Thr Tyr Ile Ile Thr Pro Ser Arg Asp Arg
130 135 140

Asp Pro Val Phe Glu Ile Thr Gly Ala Pro Gly Asn Val Glu Arg Ala
145 150 155 160

Arg Glu Glu Ile Glu Thr His Ile Ala Val Arg Thr Gly Lys Ile Leu
165 170 175

Glu Tyr Asn Asn Glu Asn Asp Phe Leu Ala Gly Ser Pro Asp Ala Ala
180 185 190

Ile Asp Ser Arg Tyr Ser Asp Ala Trp Arg Val His Gln Pro Gly Cys
195 200 205

Lys Pro Leu Ser Thr Phe Arg Gln Asn Ser Leu Gly Cys Ile Gly Glu
210 215 220

Cys Gly Val Asp Ser Gly Phe Glu Ala Pro Arg Leu Gly Glu Gln Gly
225 230 235 240

Gly Asp Phe Gly Tyr Gly Gly Tyr Leu Phe Pro Gly Tyr Gly Val Gly
245 250 255

Lys Gln Asp Val Tyr Tyr Gly Val Ala Glu Thr Ser Pro Pro Leu Trp
260 265 270

Ala Gly Gln Glu Asn Ala Thr Pro Thr Ser Val Leu Phe Ser Ser Ala
275 280 285

Ser Ser Ser Ser Ser Ser Ala Lys Ala Arg Ala Gly Pro Pro Gly
290 295 300

SeqList(02-11-US).ST25.txt

Ala His Arg Ser Pro Ala Thr Ser Ala Gly Pro Glu Leu Ala Gly Leu
 305 310 315 320

Pro Arg Arg Pro Pro Gly Glu Pro Leu Gln Gly Phe Ser Lys Leu Gly
 325 330 335

Gly Gly Gly Leu Arg Ser Pro Gly Gly Gly Arg Asp Cys Met Val Cys
 340 345 350

Phe Glu Ser Glu Val Thr Ala Ala Leu Val Pro Cys Gly His Asn Leu
 355 360 365

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Cys Pro Val Cys His Ile Thr Ala Ala Gln Ala Ile Arg Ile Phe Ser
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SeqList(02-11-US).ST25.txt

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SeqList(02-11-US).ST25.txt

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SeqList(02-11-US).ST25.txt

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SeqList(02-11-US).ST25.txt

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SeqList(02-11-US).ST25.txt

<223> CLP-2430

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<210> 25

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Gly Leu His Asn Arg Thr Arg Gln Asp
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Thr Thr Pro Asp Val Asp Val Leu Leu

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Val Leu Leu Phe His Tyr Glu Ser Val

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Ser Thr Ile Lys Glu Glu Pro Lys Ile
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Gly Leu Leu Thr Pro Val Ser Gly Thr
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Gly Thr Gln Glu Gln Thr Lys Thr Leu
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Pro Ile Tyr Gly Leu Ala Val Glu Thr
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Leu Ala Val Glu Thr Lys Gly Phe Leu
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Ala Gly Gly Glu Lys Ser Gly Ala Leu
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Gly Ala Leu Pro Gln Gln Tyr Pro Ala
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Ala Leu Pro Gln Gln Tyr Pro Ala Ser
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Ala Asn Gly Gly Tyr Val Cys Asn Ala
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Asn Ala Cys Gly Leu Tyr Gln Lys Leu
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Gly Leu Tyr Gln Lys Leu His Ser Thr
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Lys Leu His Ser Thr Pro Arg Pro Leu
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Arg Leu Asn Pro Glu Ala Leu Gln Ala

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Val Leu Val Ser Gln Thr Leu Asp Ile

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Asp Ile His Lys Arg Met Gln Pro Leu

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Arg Met Gln Pro Leu His Ile Gln Ile

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Gly Leu Pro Phe Val His Asn Asp Phe
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Ser Val Pro Gly Asn Pro His Tyr Leu
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Gly Asn Pro His Tyr Leu Ser His Val
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His Tyr Leu Ser His Val Pro Gly Leu
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Tyr Val Pro Tyr Pro Thr Phe Asn Leu
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Ser Ala Val Gly Ser Asp Asn Asp Ile
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Lys Asn Glu Gly Pro Leu Asn Val Val
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Thr Lys Cys Val His Cys Gly Ile Val
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Cys Val His Cys Gly Ile Val Phe Leu

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Cys Gly Ile Val Phe Leu Asp Glu Val

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Phe Leu Asp Glu Val Met Tyr Ala Leu

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Val Met Tyr Ala Leu His Met Ser Cys

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Gly Leu His Arg Asn Asn Ala Gln Val
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Lys Met Gly Glu Pro Val Ser Glu Ser
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Gly Leu Lys Glu Lys Val Trp Thr Glu
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gctcaccag gcgtggggcc tc

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Ala Leu Arg Ala Lys Thr Asn Thr Tyr
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Leu Arg Ala Lys Thr Asn Thr Tyr Ile
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Arg Gly Glu Glu Pro Val Phe Met Val
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Met Val Thr Gly Arg Arg Glu Asp Val
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SeqList(02-11-US).ST25.txt

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Gly Arg Arg Glu Asp Val Ala Thr Ala
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Asp Val Ala Thr Ala Arg Arg Glu Ile
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Val Ala Thr Ala Arg Arg Glu Ile Ile
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Ala Arg Arg Glu Ile Ile Ser Ala Ala
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Ile Ile Ser Ala Ala Glu His Phe Ser
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Ile Ser Ala Ala Glu His Phe Ser Met
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Ser Ala Ala Glu His Phe Ser Met Ile

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Ala Glu His Phe Ser Met Ile Arg Ala

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Ser Met Ile Arg Ala Ser Arg Asn Lys

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Arg Ala Ser Arg Asn Lys Ser Gly Ala

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Asn Lys Ser Gly Ala Ala Phe Gly Val
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Gly Ala Ala Phe Gly Val Ala Pro Ala
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Gly Val Ala Pro Ala Leu Pro Gly Gln
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Pro Ala Leu Pro Gly Gln Val Thr Ile

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Ala Leu Pro Gly Gln Val Thr Ile Arg

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Gly Gln Val Thr Ile Arg Val Arg Val
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Val Pro Tyr Arg Val Val Gly Leu Val
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Arg Val Val Gly Leu Val Val Gly Pro
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Leu Val Val Gly Pro Lys Gly Ala Thr
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Val Val Gly Pro Lys Gly Ala Thr Ile
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Arg Ile Gln Gln Gln Thr Asn Thr Tyr
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Gln Gln Gln Thr Asn Thr Tyr Ile Ile
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Gln Gln Thr Asn Thr Tyr Ile Ile Thr
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Tyr Ile Ile Thr Pro Ser Arg Asp Arg
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Arg Asp Arg Asp Pro Val Phe Glu Ile
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Glu Ile Thr Gly Ala Pro Gly Asn Val
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Gly Ala Pro Gly Asn Val Glu Arg Ala
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Glu Glu Ile Glu Thr His Ile Ala Val
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His Ile Ala Val Arg Thr Gly Lys Ile
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Tyr Asn Asn Glu Asn Asp Phe Leu Ala
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Phe Leu Ala Gly Ser Pro Asp Ala Ala
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Leu Ala Gly Ser Pro Asp Ala Ala Ile
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Ala Ile Asp Ser Arg Tyr Ser Asp Ala
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Ser Arg Tyr Ser Asp Ala Trp Arg Val
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Val His Gln Pro Gly Cys Lys Pro Leu
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Leu Ser Thr Phe Arg Gln Asn Ser Leu
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Leu Gly Cys Ile Gly Glu Cys Gly Val
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Cys Gly Val Asp Ser Gly Phe Glu Ala
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Gly Phe Glu Ala Pro Arg Leu Asp Val
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Asp Val Tyr Tyr Gly Val Ala Glu Thr
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Gly Val Ala Glu Thr Ser Pro Pro Leu
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Ala Glu Thr Ser Pro Pro Leu Trp Ala
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SeqList(02-11-US).ST25.txt

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Ala Gly Gln Glu Asn Ala Thr Pro Thr
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Gln Glu Asn Ala Thr Pro Thr Ser Val
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Val Leu Phe Ser Ser Ala Ser Ser Ser
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SeqList(02-11-US).ST25.txt

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Pro Ala Thr Ser Ala Gly Pro Glu Leu
1 5

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Ala Thr Ser Ala Gly Pro Glu Leu Ala
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Ser Ala Gly Pro Glu Leu Ala Gly Leu
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SeqList(02-11-US).ST25.txt

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Gly Leu Pro Arg Arg Pro Pro Gly Glu
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Glu Pro Leu Gln Gly Phe Ser Lys Leu
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Phe Ser Lys Leu Gly Gly Gly Gly Leu
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Lys Leu Gly Gly Gly Gly Leu Arg Ser
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SeqList(02-11-US).ST25.txt

<223> CLP-2899

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Gly Leu Arg Ser Pro Gly Gly Gly Arg
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Cys Met Val Cys Phe Glu Ser Glu Val
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<223> CLP-2910

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Met Val Cys Phe Glu Ser Glu Val Thr
1 5

<210> 204

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<223> CLP-2911

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Val Cys Phe Glu Ser Glu Val Thr Ala
1 5

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Phe Glu Ser Glu Val Thr Ala Ala Leu
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Glu Val Thr Ala Ala Leu Val Pro Cys
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Val Thr Ala Ala Leu Val Pro Cys Gly
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Ala Leu Val Pro Cys Gly His Asn Leu
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SeqList(02-11-US).ST25.txt

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Val Pro Cys Gly His Asn Leu Phe Cys
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Asn Leu Phe Cys Met Glu Cys Ala Val
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Phe Cys Met Glu Cys Ala Val Arg Ile
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<210> 213
<211> 9
<212> PRT
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Cys Ala Val Arg Ile Cys Glu Arg Thr
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SeqList(02-11-US).ST25.txt

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Arg Ile Cys Glu Arg Thr Asp Pro Glu
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Arg Thr Asp Pro Glu Cys Pro Val Cys
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<210> 216
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Cys Pro Val Cys His Ile Thr Ala Thr
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Val Cys His Ile Thr Ala Thr Gln Ala
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SeqList(02-11-US).ST25.txt

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Ile Thr Ala Thr Gln Ala Ile Arg Ile
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